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DEVELOPMENTS IN MARKETING SPREADS FOR AGRICULTURAL PRODUCTS IN 1962

Marketing Economics Division
Economic Research Service
U. S. Department of Agriculture

(Reprinted from Hearings Before the Subcommittee of the Committee on Appropriations, United States House of Representatives, Eighty-Eighth Congress, First Session)

PREFACE

The Congress in 1955 directed the Department of Agriculture to make special studies of spreads between prices paid by consumers and those received by farmers. The reports published in 1962 and early 1963 are summarized in this report, which was prepared for the Subcommittees of the Committees on Appropriations of the House of Representatives and of the United States Senate.

Six similar reports summarize the results of earlier studies: Special Margins and Costs Studies, Marketing Research Report No. 187, April 1957; Special Studies of Marketing Costs and Practices, Marketing Research Report No. 240, October 1958; Developments in Marketing Spreads for Agricultural Products in 1958, AMS-316, June 1959; Developments in Marketing Spreads for Agricultural Products in 1959, AMS-374, May 1960; Developments in Marketing Spreads for Agricultural Products in 1960, ERS-14 (1961), July 1961; Developments in Marketing Spreads for Agricultural Products in 1961, ERS-14 (1962), October 1962.

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Washington, D. C.   August 1963

DEVELOPMENTS IN MARKETING SPREADS FOR AGRICULTURAL PRODUCTS IN 1962

HIGHLIGHTS

1. Charges for marketing farm-originated food products rose less in 1962 than in any year since 1950, the last year they declined. The rise in 1962 was less than one-half of 1 percent compared with an average increase of about 3 percent per year from 1950 to 1961.

2. The small rise in marketing charges in 1962 reflected relative stability in costs of performing marketing operations. Average hourly earnings of food marketing employees increased less in 1962 than in most other years since 1950. Transportation charges probably changed little. Prices of supplies, equipment, and other goods and services used by food marketing firms averaged about the same last year as in 1961.

3. Retail prices of farm foods averaged about 1 percent higher in 1962 than in 1961. The 1962 level was slightly higher than the previous record established in 1958.

4. More than half the rise in retail prices was reflected in higher prices to farmers for food products, which averaged 1 percent higher in 1962 than in 1961. Farm food product prices averaged higher in 1962 than in any year since 1954, except for 1958.

5. Farmers received 38 cents of the dollar consumers spent for farm foods in 1962, the same share as in 1961.

6. Retail food prices and expenditures for food per capita rose less than disposable income per capita from 1961 to 1962.

7. Retail prices of cotton clothing and household furnishings averaged a little lower in 1962 than in 1961, and prices farmers received for lint cotton from which these articles were fabricated were up 6 percent. Consequently, marketing charges were down slightly last year.

8. Retail prices of cigarettes edged up again in the year ended June 30, 1962. Two-thirds of the rise was reflected in an increase in farmers' returns for leaf tobacco.

RECENT TRENDS IN FOOD PRICES AND MARKETING SPREADS

Charges for marketing farm-originated food products increased less in 1962 than in any year since 1950, the last year marketing charges declined (fig. 1). The farm-retail spread of the "market basket" of farm foods averaged $657 last year, up $3 from the 1961 average (table 1). 1/ Since 1950 year-to-year increases in the annual average farm-retail spead have averaged $14. Since the increase in the spread from 1961 to 1962 was small, more than half of the rise in retail prices was reflected in higher prices to farmers.

The retail-store cost of the market basket foods averaged $1,067 last year, compared with $1,060 in 1961. Last year's level topped the previous record established in 1958 by $3 (table 1). Farmers received $410 in 1962 for farm products

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1/ The market basket contains the average quantities of farm-originated food products purchased per family in 1952 by urban wage-earner and clerical worker families. The farm-retail spread is the difference between the retail cost and the farm-value or return to farmers for farm products equivalent to the foods in the market basket.

Table 1.--The farm food market basket: Retail cost, farm value, farm-retail spread, and farmer's share of retail cost, 1952-1962 1/

Year and month	Retail cost 2/	Farm value 3/	Farm-retail spread	Farmer's share
	Dollars	Dollars	Dollars	Percent
1952	1,034	482	552	47
1953	1,003	445	558	44
1954	986	421	565	43
1955	969	395	574	41
1956	972	390	582	40
1957	1,007	401	606	40
1958	1,064	430	634	40
1959	1,040	398	642	38
1957-59 average	1,037	410	627	40
1960	1,053	407	646	39
1961	1,060	406	654	38
1962 4/	1,067	410	657	38
1961				
January	1,068	421	647	39
February	1,070	425	645	40
March	1,068	416	652	39
April	1,068	409	659	38
May	1,060	397	663	37
June	1,059	392	667	37
July	1,066	398	668	37
August	1,060	404	656	38
September	1,058	403	655	38
October	1,054	400	654	38
November	1,045	397	648	38
December	1,047	407	640	39
1962 4/				
January	1,057	411	646	39
February	1,065	416	649	39
March	1,064	415	649	39
April	1,066	409	657	38
May	1,063	401	662	38
June	1,068	401	667	38
July	1,068	402	666	38
August	1,067	413	654	39
September	1,085	425	660	39
October	1,075	411	664	38
November	1,070	412	658	39
December	1,062	407	655	38

1/ The farmer's share and index numbers of the retail cost, farm value, and farm-retail spread for the years 1913-61 (1957-59=100) are published in the February 1962 Marketing and Transportation Situation (MTS-144), p. 50. 2/ Retail cost of average quantities purchased per family in 1952 by urban wage-earner and clerical worker families, calculated from retail prices collected by the Bur. Labor Statistics. 3/ Payment to farmers for equivalent quantities of farm produce minus imputed value of by products obtained in processing. 4/ Preliminary estimates.

Current data are given in the Marketing and Transportation Situation,
a quarterly publication of the Economic Research Service,
and in the Statistical Summary, a monthly publication of the
Statistical Reporting Service

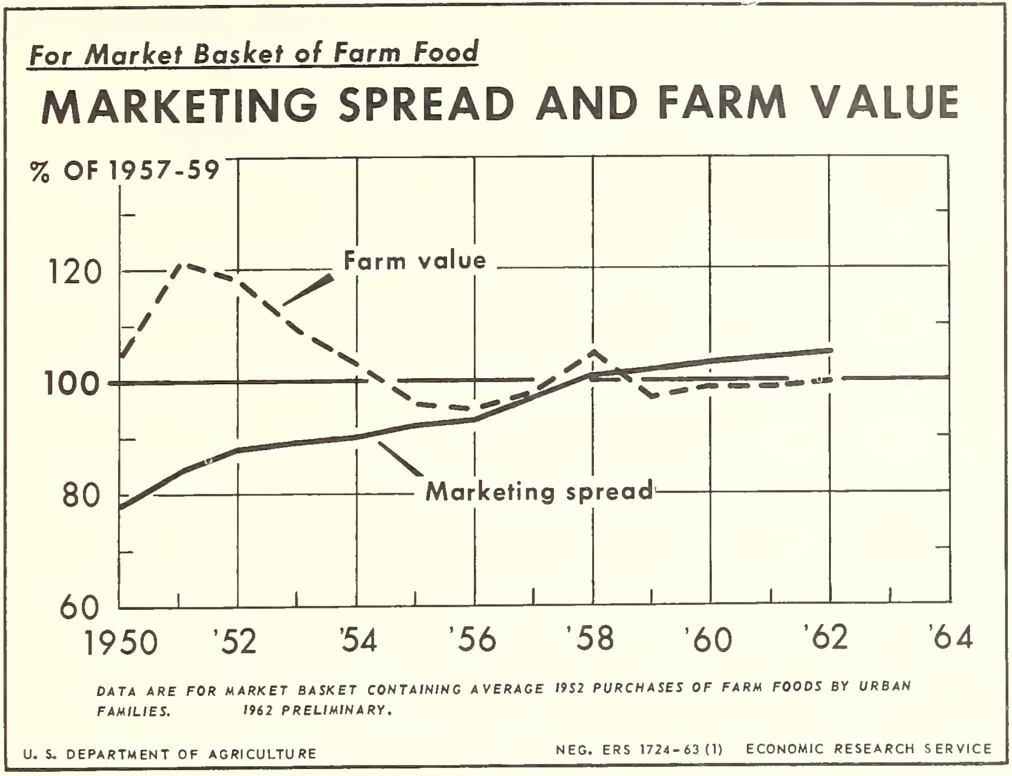


Figure 1

equivalent to the foods in the market basket, about $4 more than in 1961. Most of this increase resulted from higher prices for beef cattle.

Farmers received an average of 38 cents of the dollar consumers spent in retail food stores for farm foods in 1962, the same share as in 1961 and 1959 (fig. 2).

LITTLE CHANGE IN MARKETING COSTS IN 1962

The small rise in farm-retail spreads for farm food products in 1962 reflected relative stability in operating costs of marketing firms. This stability contrasts with sharply rising costs in the 1950's.

Labor costs.--Hourly earnings of food marketing workers averaged $2.10 last year compared with $2.04 in 1961. This increase was smaller than the average rise of 7.3 cents per year during the preceding 10 years. The rise from 1961 to 1962 was slightly smaller than the rise in average hourly earnings of employees in all manufacturing industries and all retail trade.

Hourly earnings in food manufacturing industries averaged $2.25 in 1962 compared with $2.39 in all manufacturing industries. The average of $1.82 in retail food stores compared with $1.75 in all retail trade.

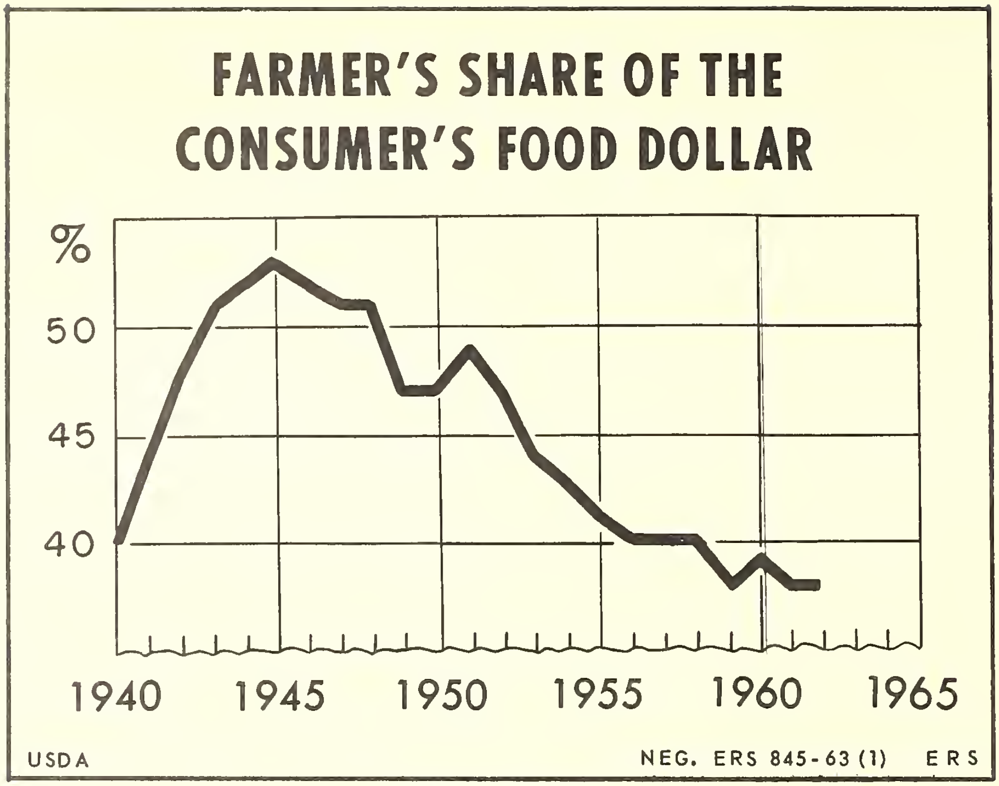


Figure 2

Changes in average hourly earnings reflect changes in wage rates, in the proportion of employees in lower- and higher-paid groups, and in hours of overtime work for which premium rates were paid. Part of the rise in average hourly earnings has resulted from increases in the proportion of employees in higher paid (and higher skilled) jobs.

Increased output per man-hour has kept labor costs per unit of food marketed from rising as much as hourly earnings in recent years. Though hourly earnings, including allowances for fringe benefits, jumped 51 percent from 1952 to 1962, unit labor costs increased no more than 16 percent (fig. 3). Gains in output per man-hour are attributed mainly to technological improvements in marketing facilities and in production and distribution practices, to increased skill and capability of management and workers, and to economies of scale.

Costs of labor employed by food marketing firms made up about 46 percent of the bill for marketing domestic farm food products in 1962. Since 1950 this proportion has varied from 44 to 49 percent.

Capital costs.--Prices of producers' durable equipment have changed little in the last year or two (fig. 4). Construction costs, however, have continued to edge upward. Changes in costs of construction and equipment are reflected in depreciation charges, which have increased substantially in recent years. According to estimates developed by the Economic Research Service, depreciation charges taken by firms

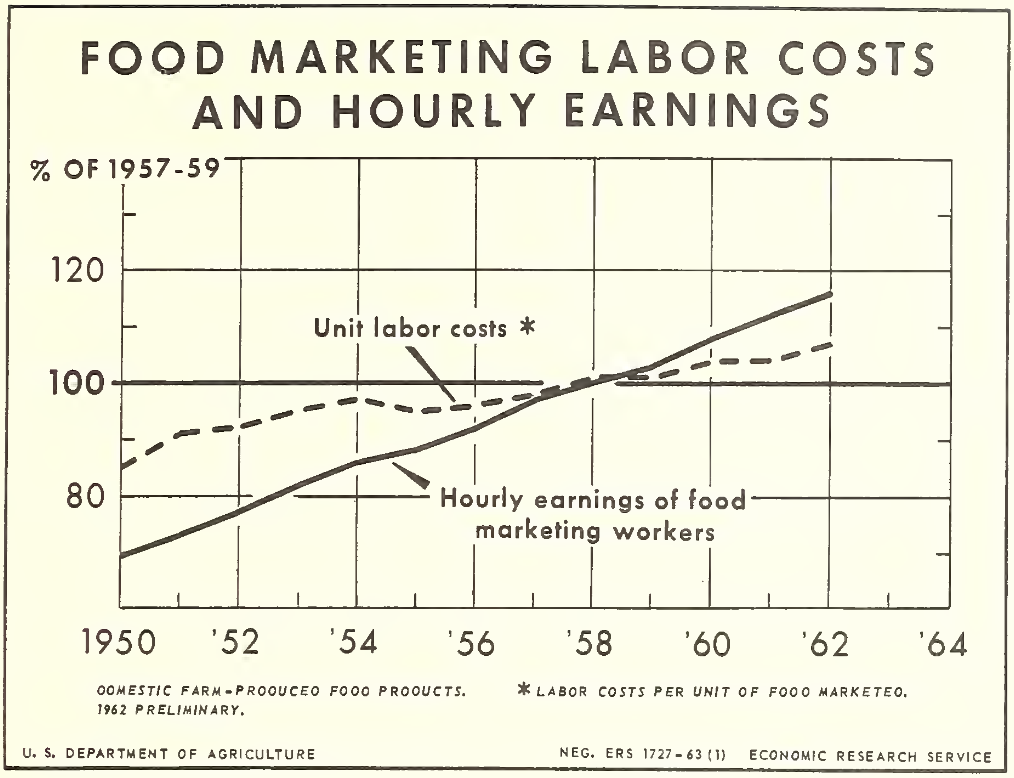


Figure 3

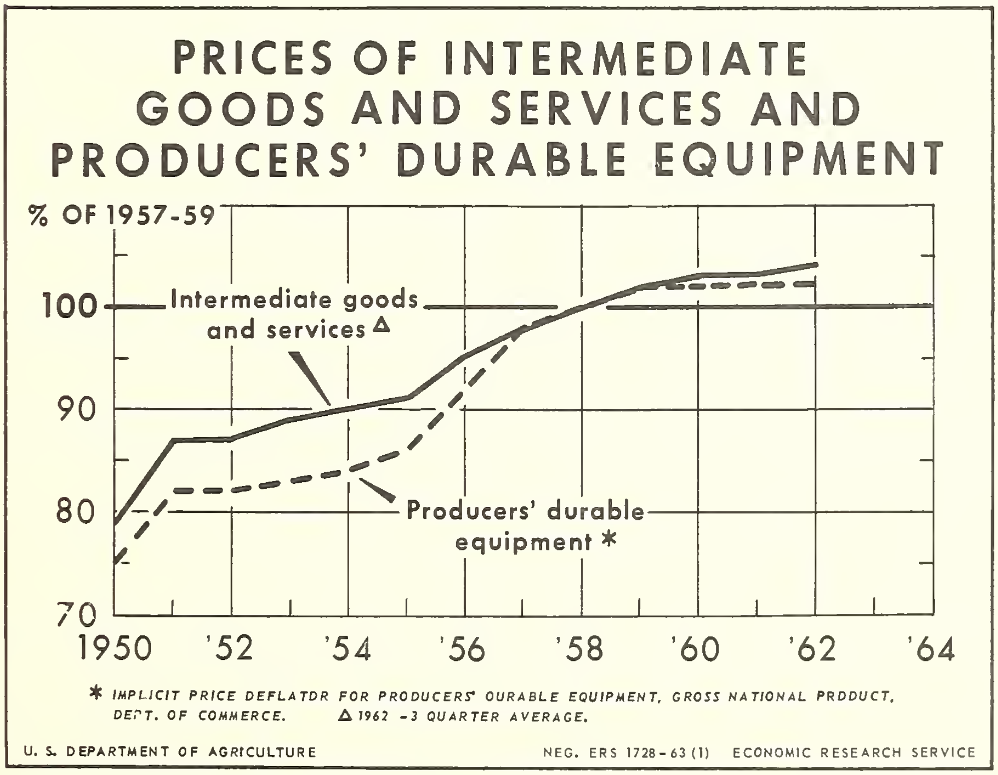


Figure 4

that process and distribute food products totaled $1.6 billion in 1961, compared with an average of $490 million in 1947-49 (table 2).

Table 2.--Selected costs of food marketing firms, by function of firms, 1947-49 average, 1959 and 1961 1/

Item	Processors			Wholesalers 2/			Retailers 4/			All groups		
	1947-49 average	1959	1961	1947-49 average	1959	1961	1947-49 average	1959	1961	1947-49 average	1959	1961
	Million dollars	Million dollars	Million dollars	Million dollars	Million dollars	Million dollars	Million dollars	Million dollars	Million dollars	Million dollars	Million dollars	Million dollars
Advertising	387	994	1,099	53	106	114	132	335	361	572	1,435	1,574
Depreciation	281	807	898	54	184	199	155	514	549	490	1,505	1,646
Interest	53	129	142	17	48	50	18	70	75	88	247	267
Taxes paid 3/	295	602	667	66	136	146	165	422	452	526	1,160	1,265
Rent	53	198	219	23	130	142	200	599	641	276	927	1,002
Repairs, bad debts	275	499	555	31	87	92	62	190	205	368	776	852

1/ Preliminary estimates. Estimates are for both corporate and noncorporate firms.
2/ Merchant wholesalers of groceries and related products.
3/ Includes property, social security, unemployment insurance, State income, and franchise taxes, license fees, etc., but does not include Federal income tax.
4/ Includes retail food stores; does not include restaurants and other eating places.

Estimates based on "Statistics of Income," Internal Revenue Service, and census data.

This increase in depreciation charges of more than 200 percent compares with a rise of about a third in the volume of food products marketed by farmers. Thus, depreciation charges per unit of product increased sharply. Part of this increase resulted from substitution of machines and other forms of capital for labor. This substitution also was the principal cause of the improvement in the productivity of labor. Thus, part of the savings gained by increased output per man-hour has been offset by added depreciation charges.

Part of the rise in total depreciation charges resulted from growth in total gross depreciable assets through replacement, modernization, and extension of marketing facilities. A larger part of the rise came from charging off more per dollar of depreciable assets. This rise in write-off was caused partly by the trend toward assets with shorter service lives -- a trend resulting from more rapid obsolescence and increased investment in equipment relative to structures. The remainder of the rise in write-off per dollar of assets was caused by greater use of rapid methods of depreciation rather than the traditional straight-line method. Rapid depreciation has accounted for most of the rise since 1954.

New guidelines announced in 1962 by the Internal Revenue Service for determining lives of depreciable property are expected to increase further the rate at which assets will be depreciated. But the new investment tax credit, effective January 1, 1962, will decrease depreciation, as the credit will be subtracted from total depreciable assets. However, the strong upward push to write-off rates provided by the use of the new guideline lives probably will more than counter-balance both the decline caused by the tax credit and the waning effects of using rapid methods.

Rent is another capital cost item that has grown rapidly. In its studies of food marketing costs, the Economic Research Service has developed estimates of total rents and some other aggregate expenses incurred by food marketing firms (table 2). It is estimated that rental payments by these firms totaled $1.0 billion in 1961, up from $276 million in 1947-49. Much of this rise resulted from the growing practice of leasing stores, equipment, and other facilities rather than owning them. The climb in interest payments from an average annual total of $88 million in 1947-49 to $267 million in 1961 was a consequence of increased capital requirements and higher interest rates.

Other costs.--Prices of most goods and services (not including raw materials and labor) used by marketing firms have leveled off since 1959, after an almost steady rise during the 1950's (fig. 4). Included in this group are prices of containers and packaging materials; fuel, power, and light; office supplies; restaurant supplies; rents, property insurance, maintenance, and many other goods and services. Interest rates charged by banks on short-term loans to business were stable during 1961 and 1962 at rates that averaged lower than those prevailing during much of 1959 and 1960. But rates were considerably higher in 1962 than in the early and mid-1950's.

Advertising expenditures by food marketing firms have increased in total (table 2) and per unit of product marketed. Much of this growth has resulted from the introduction of new products and increases in media rates.

Transportation charges.--The Economic Research Service index of railroad freight rates for agricultural commodities declined slightly in 1959-61, after rising almost every year since World War II (fig. 5). Complete data for 1962 are not yet available, but selective reductions in rates for individual commodities probably lowered the index again last year. The railroads reduced rates where they faced strong competition from truck or barge carriers or where shippers could conveniently haul their own traffic. Reduced rail rates are an indication of the railroads' continuing efforts to compete effectively with other modes of transportation for the agricultural traffic. Available information indicates that truck rates for agricultural commodities generally were stable in 1962.

Several developments in 1962 may affect the costs of transportation services to shippers of agricultural commodities and the quality of these services. The Department is studying the possible impact of these developments on farmers and

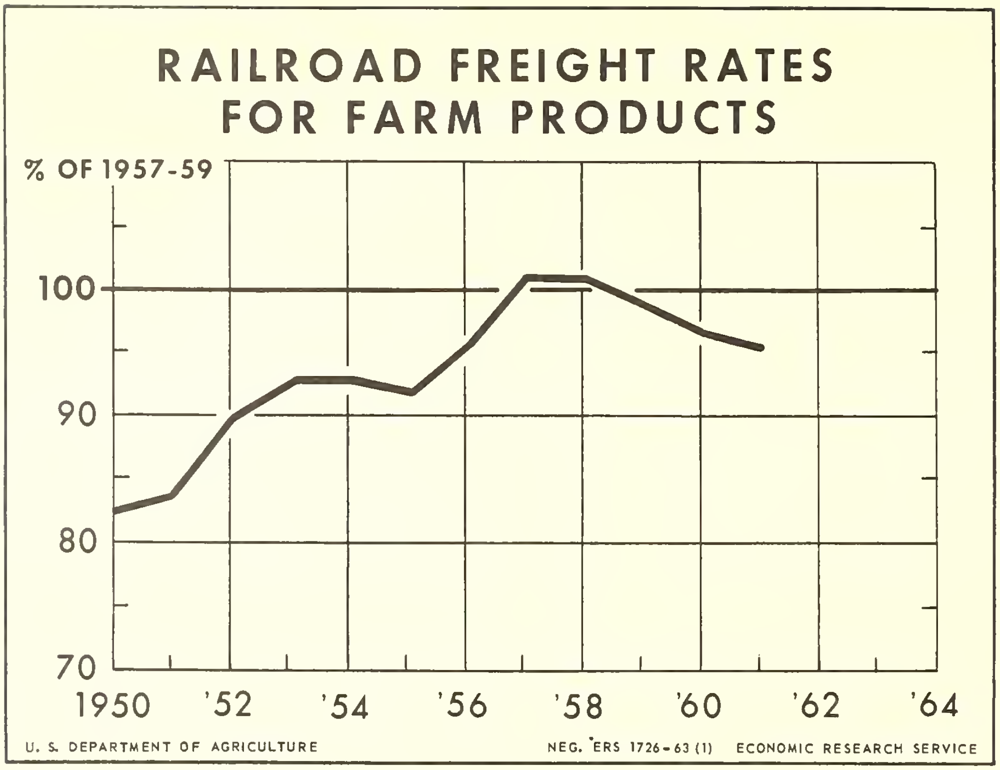


Figure 5

marketing firms. Some of these are listed below:

1. The Presidential Railroad Commission issued a report in February that called for a gradual reduction in the railroads' labor force, increases in the productivity of operating employees, and modification of certain rules that have prevented costs from being reduced by increasing productivity. Other proposals would reduce the length of the working day and change salary bases of many employees. Some employees would receive more pay than at present.

2. After the Presidential Railroad Commission report, the Nation's railroads attempted to put into effect revised work rules, aimed at implementing the major recommendations of the report. Railroad operating brotherhoods vigorously opposed these revisions in the courts. Lower courts ruled in favor of the railroads; but until the Supreme Court hands down a final decision, no changes may be made.

   It seems reasonable to expect that the agricultural economy would benefit to the extent that the railroads eventually increase efficiency and improve service through these work rule changes. Competition would control the extent to which savings from such increased efficiency were shared by consumers, producers, and the railroads.

3. The President's transportation message delivered to the Congress in April contained a recommendation to extend to all modes of transportation the exemptions from economic regulation by the Interstate Commerce Commission now granted to motor carriers hauling unmanufactured agricultural commodities and to water carriers hauling bulk commodities. This recommendation was included in legislation proposed during the last session of Congress. Hearings were held, but no legislation was enacted.

4. The Department of Agriculture has actively supported lowered freight rates for movements of grain into the South from Mississippi and Ohio River crossings.

   In late 1961, the Southern Railway asked the ICC for permission to reduce freight rates on grain by as much as 60 percent when moved over its lines via multiple-car shipments of five or more "jumbo" covered hopper cars (of 90 tons each). The Southern contended that economies achieved through multiple shipments could be shared with grain shippers in the form of reduced rates, and still provide increased income for the railroad.

   Competing barge carriers have been successful in preventing the use of the lowered rates. A Division of the ICC examined the railroad's proposal and recently approved the lower rates for movements consisting of five "jumbo" carlots. Other parts of the proposal were denied. Barge line interests are likely to appeal this initial ruling, forestalling, at least temporarily, the rate cut. In addition, the rates cannot take effect until the Supreme Court decides on the legality of a lower court order enjoining the carrier from making the rates effective after the normal 7-month suspension period.

Corporate Profits.--Total profits (after taxes on income) of food manufacturing corporations were higher in the first three quarters of 1962 than in the corresponding period of 1961, according to a joint report of the Federal Trade Commission and Securities and Exchange Commission. The ratio of these profits to sales remained about the same in 1962 as in 1961. Profits as a percentage of stockholders' equity declined slightly.

Profits of food manufacturing corporations decreased sharply from 1947 to 1952 (fig. 6). After-taxes profits decreased from 3.6 percent of sales in 1947 to 1.9 percent in 1952. During the years 1953-61, this ratio varied from 2.1 to 2.4 percent.

Profits after taxes as a percentage of stockholders' equity (an indication of return on investment) likewise made a steep decline from 1947 to 1952, dropping from 16.2 percent to 7.6 percent. During the years 1953-61 this ratio varied from 8.1 percent to 9.3 percent.

Profits before taxes followed a pattern similar to profits after taxes with slight variations caused by changes in tax rates.

Profit ratios for food manufacturers tend to be lower than the average for all manufacturers. One reason probably is the comparatively stable demand for food which results in less uncertainty than in some other manufacturing industries.

Profits of the leading retail food store chains in the first three quarters of 1962 totaled about the same as in the like period of 1961. Profits of these companies, both before and after taxes, represented about the same percentage of sales in the

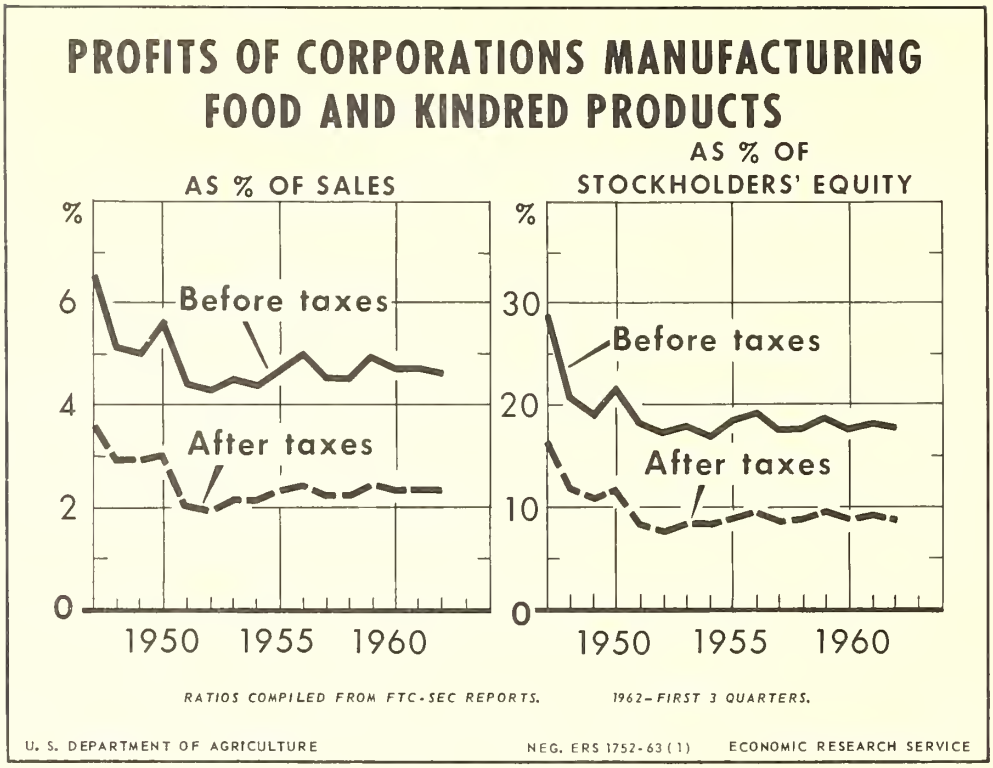


Figure 6

first three quarters of 1962 as in the comparable period of 1961. Profits of food chains as a percentage of stockholders' equity are not yet avialble for 1962. During the 10 years, 1952-61, pre-tax profits of the eight leading food chain companies varied between 22.5 percent of stockholders' equity in 1952 to 29.9 percent in 1957. After-tax profits varied between 10.0 percent in 1952 and 14.2 percent in 1957. As a percentage of sales, profits before taxes varied between 1.9 percent in 1952 and 2.6 percent in each of the years 1957-60. After-tax profits of these leading food chains varied between 0.8 percent of sales in 1952 and 1.2 percent in 1957-61.

Corporate profits (before taxes) as a percentage of the total bill for marketing farm foods did not change significantly from 1952 to 1961 and in 1961 represented about 5 percent of the total marketing bill. About half of 1961 profits were paid to the Government as taxes, so profits after taxes amounted to about 2.5 percent of the marketing bill.

RETAIL FOOD PRICES RISE LESS THAN CONSUMER INCOMES

Retail food prices rose less than disposable personal income per capita in 1962, as was true in most other years of the last decade (fig. 7). Retail food prices of domestic farm-originated foods averaged less than 1 percent higher in 1962 than in 1961. 2/ Disposable income per capita was up 3.6 percent last year. In 1962

2/ Changes in retail prices of domestic farm foods are measured by the retail cost of the farm food market basket; see table 1.

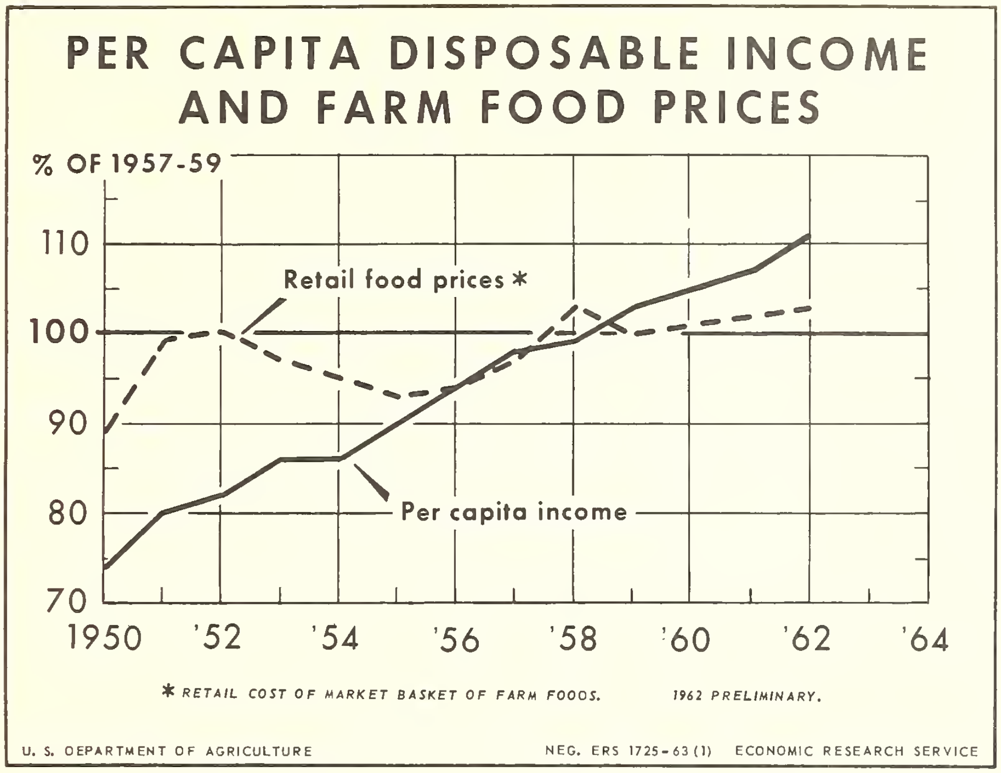


Figure 7

retail prices of domestic farm foods were 3.2 percent higher than in 1952, and per capita disposable income was up 35 percent.

Per capita expenditures for food increased 12 percent from 1952 to 1962. Thus, consumer expenditures for food have not kept pace with the rise in income. Consumers spent 19 percent of their income for food in 1962, compared with 23 percent in 1952. Price increases accounted for approximately half of the rise in food expenditures per person. The other part resulted mainly from consumers' substituting relatively expensive foods for cheaper foods and purchases of more marketing services with foods.

Consumer expenditures for food averaged $397 per person in 1962, including expenditures for food eaten away from home. Prices of food in restaurants and other eating places have risen more than food bought to be eaten at home. The Bureau of Labor Statistics publishes indexes of prices consumers pay for "food away from home," "food at home," and "all food," a weighted average of the first two indexes. The food away from home index increased 24.0 percent from 1953 (the first year for which it is available) to 1962. During the same period the food at home index rose 5.6 percent and the all food index, 8.4 percent.

The index of farm food retail prices, published by the Economic Research Service, increased 6.4 percent from 1953 to 1962, slightly more than the BLS food at home index. The Economic Research Service measures prices of food bought to be eaten at home. It covers prices of most of the domestic farm-originated foods included in the BLS food at home index, but it does not include prices of coffee, bananas, and other imported foods and seafoods and other foods not originating on farms that are included in the BLS index.

Retail prices of food increased considerably less than the BLS Index of Consumer Prices in the past decade. The Consumer Price Index rose 13.9 percent from 1952 to 1962, compared with a rise of 6.7 percent in the "all food" component. Prices of apparel, which increased 4.5 percent during this period, made up the only major component of the CPI that increased less than the food component. Increases from 1952 to 1962 for the other major components ranged from 16.2 percent for the "other goods and services" group to 40.7 percent for the "medical care" group.

SPECIAL STUDIES OF MARKETING SPREADS AND COSTS

The Marketing Economics Division conducted several special studies of marketing spreads and costs last year. In several of these studies, prices and costs were collected for individual products sold in specific markets. From these data the Division estimated the way in which marketing spreads for these products were divided among the various marketing agencies. The results of these studies have been widely disseminated to improve public understanding of marketing functions and costs and the factors affecting food prices and to aid in pointing out possibilities of reducing marketing costs.

Some of the results of these studies for individual products are presented in the following pages of this report.

Marketing Spreads for Beef and Pork

The annual average farm-retail spread for Choice grade beef decreased to 29.9 cents per retail pound in 1962, about 7 percent below the record high established in 1961. This was the second decrease in the annual average since 1953. From 1954 to 1961, the farm-retail spread increased at an average rate of 1.2 cents per year (fig. 8). It was 20 percent larger in 1962 than in 1953.

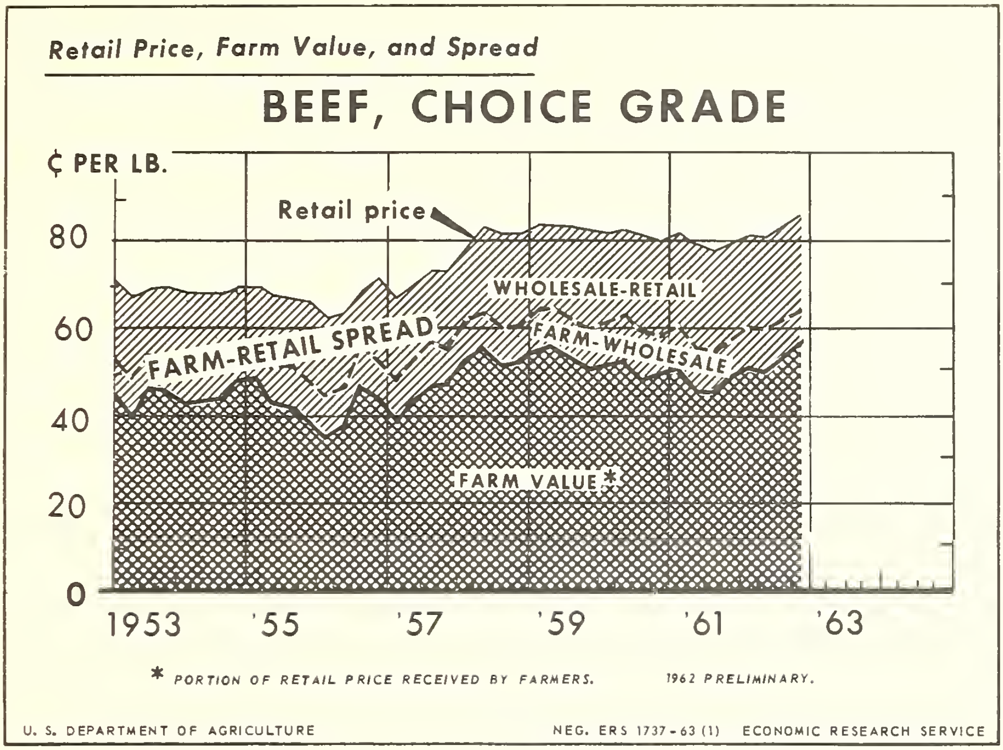
Retail prices and wholesale and farm values of beef increased in 1962; but farm values increased faster than retail prices; consequently, farm-retail spreads narrowed. Both the farm-wholesale and wholesale-retail segments of the total spread decreased.

Farmers received an average of 64 cents of the dollar consumers spent for Choice grade beef in 1962, 5 cents more than in 1961.

The farm-retail spread for pork (retail cuts) averaged 28.1 cents per retail pound in 1962, the second highest annual average recorded. During the 10-year period 1953-62, the farm-retail spread for pork increased each year except in 1953, 1956, and 1960 when there were small decreases (fig. 9). It was about 25 percent larger in 1962 than in 1953.

Retail and wholesale prices and the farm value for pork remained practically the same in 1962 as in 1961. The farmer's share of the dollar the consumer spent for pork in retail food stores in 1962 was 53 cents, the same as in 1961. Since 1944, the farmer's share generally has been larger for beef than for pork.

Movements in the farm-retail spread for pork during 1962 followed the usual seasonal pattern -- narrowing in the first half of the year when marketings of hogs


Retail Price, Farm Value, and Spread

BEEF, CHOICE GRADE

* PORTION OF RETAIL PRICE RECEIVED BY FARMERS. 1962 PRELIMINARY.

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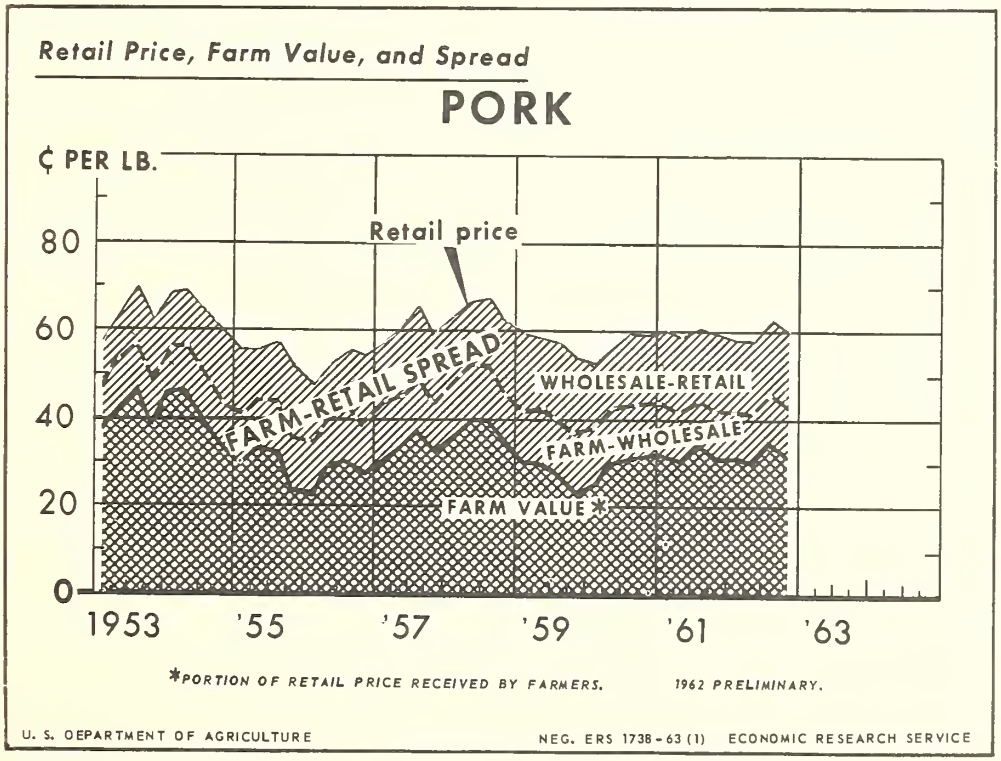
Figure 8


Retail Price, Farm Value, and Spread

PORK

*PORTION OF RETAIL PRICE RECEIVED BY FARMERS. 1962 PRELIMINARY.

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Figure 9

decline and widening during the second half when marketings increase. During the last 3 years this seasonal pattern was not as pronounced as in earlier years (fig. 9). This was due, in part, to increased multiple farrowings and earlier spring farrowings. For example, spring pig crops during 1946-55 averaged 57 percent larger than the fall pig crops. In contrast, the 1960-62 average spring pig crop was only about 15 percent larger than the fall pig crop.

From 1953 to 1962 retail pork prices decreased from 63.5 cents to 59.5 cents per pound, but retail beef prices increased from 69.1 cents per pound to 82.4 cents. During this same period, per capita consumption of pork varied between 60.2 pounds and 67.6 pounds. It was 63.5 pounds (carcass weight) in 1953 and about the same in 1962. Per capita consumption of beef, however, increased from 77.6 pounds (carcass weight) in 1953 to about 89 pounds in 1962. Changes in consumer tastes and preferences for beef and pork apparently led to significant changes in prices consumers were willing to pay for these products.

Poultry and Eggs

Farm-retail spreads for eggs marketed in urban areas in the United States decreased by an average of 5 percent from 1961 to 1962. Both farm values and retail prices declined about 6 percent from 1961 to 1962. The average spread was smaller in 1962 than in any year since 1946. The decrease reflected economies in marketing eggs. Large-scale egg producing enterprises are replacing small farm-flocks. Large-scale production permits economies in assembling, grading, cartoning, and distributing eggs. Newly developed equipment can be used in large plants that could not be used profitably in small plants.

For frying chickens, farm-retail spreads increased about 4 percent from 1961 to 1962. Farm values and retail prices also were higher in 1962 than in the previous year. A slightly larger volume of frying chickens was slaughtered in 1962 than in 1961. But exports and Government purchases for the School Lunch Program were larger last year than in 1961, and consumer demand continued strong.

Eggs.--Though farm-retail spreads averaged lower last year for eggs retailed in all urban areas in the United States, those for Grade A large eggs marketed in 10 major cities increased slightly in 1962, averaging 24.2 cents a dozen, up 0.2 cent from 1961 (fig. 10).

Retail store spreads widened in 6 of the 10 cities from 1961 to 1962, and narrowed in the other 4. The average for the 10 cities was 10.3 cents in 1962 -- 0.5 cent wider than in 1961.

Spreads between prices paid by retailers and prices received by farmers, however, narrowed in 8 of the 10 cities in 1962 from the previous year. In Atlanta, farm-retailer spreads have narrowed more than 5 cents a dozen since 1956. This decline took place during a period of expansion of the commercial egg industry that shifted egg production in Georgia from a deficit to a surplus position. This industry development was accompanied by increased integration of production and marketing, reduced costs of production, and improved marketing technology.

Frying chickens.--Farm-retail spreads for Grade A ready-to-cook frying chickens averaged 19.2 cents a pound in the 10 major cities in 1962, about the same as in 1961 (fig. 11).

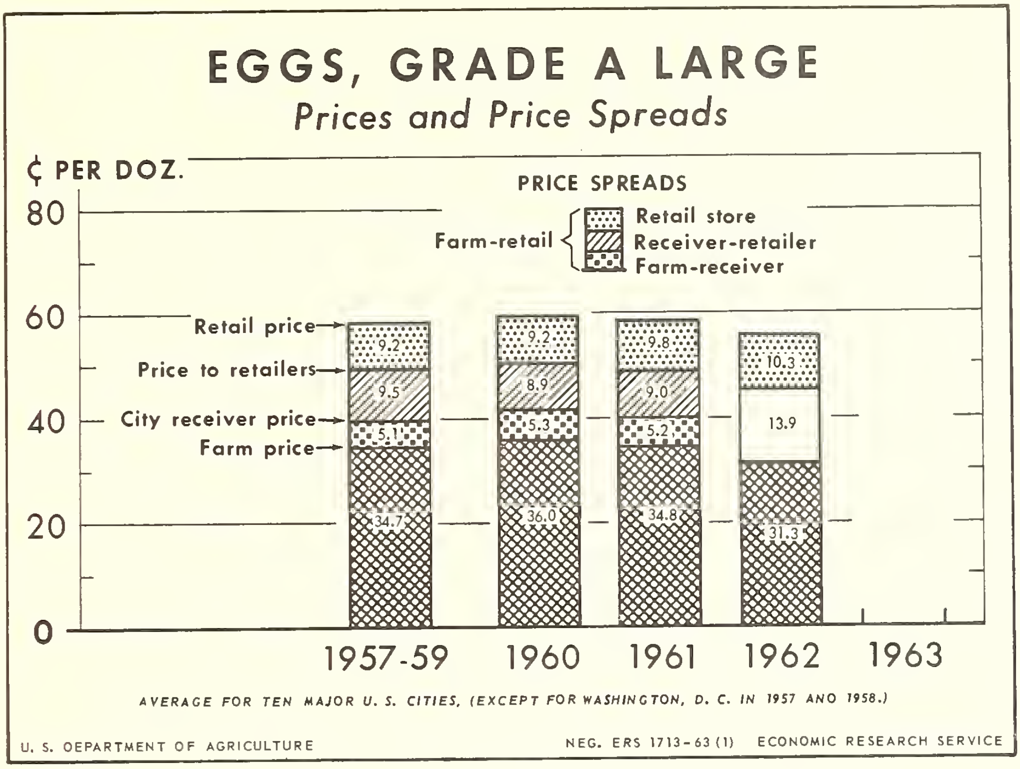

Figure 10

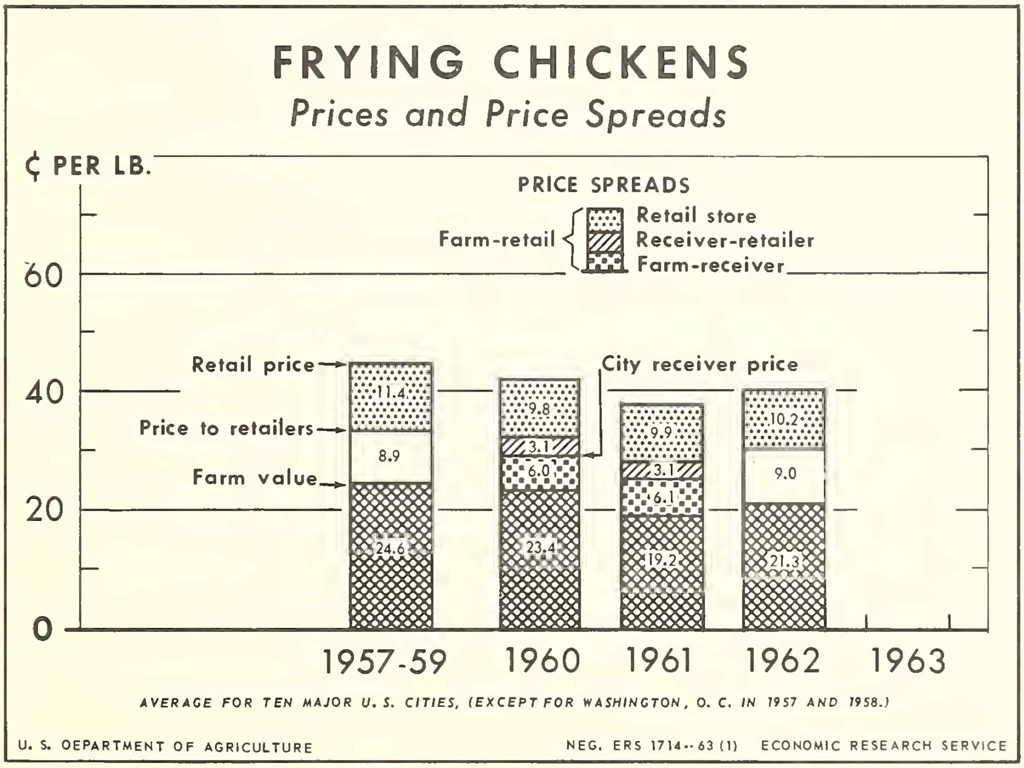

Figure 11

Retail store spreads widened in most of the 10 cities from 1961 to 1962 and averaged 10.2 cents a pound in 1962 -- 0.3 cent wider than in the previous year. In San Francisco, however, this spread narrowed to 12.3 cents a pound in 1962. This was 2.3 cents smaller than the 1961 spread, and nearly 11 cents less than the retail store spread recorded in 1956.

The spread between prices paid by retailers and those received by farmers averaged 9.0 cents a pound in the 10 cities in 1962. The average was within the narrow range of annual averages -- 8.7 to 9.2 cents -- reported since 1957. The biggest change in this spread among the 10 cities occurred in Los Angeles, where it decreased 3.7 cents a pound. This decrease probably was due to structural changes in the marketing system for fryers in that area. These changes included more direct marketings on a specification basis to large volume retailers, more plentiful supplies of local fryers as a result of recent expansion of the commercial broiler industry in California, and improvements in production and marketing technology.

Dairy Products

Retail prices and farm values of all major dairy products declined from 1961 to 1962, the first general decrease in 7 years. Decreases in the Federal Government's support prices for butter, American Cheddar cheese, and nonfat dry milk accounted for the reductions in the farm values of manufactured dairy products. Changes in farm-retail spreads for most of these products were negligible, so retail prices of most products decreased about as much as their farm values. The farmer's share of the dollar consumers spent for dairy products was 44 cents in 1962, 1 cent less than in 1961. The 1962 farmer's share was the smallest since 1933.

Fluid milk.--Retail prices of fluid milk averaged 25.3 cents in 1962, down 0.1 cent from 1961. Farmers received 10.7 cents per quart of milk sold at retail in 1962, 0.2 cent less than in 1961. The farm-retail spread was 14.6 cents, 0.1 cent wider than in 1961.

Last year was the first year in 8 that the annual average retail price did not rise (fig. 12). The retail price was 2.1 cents higher in 1962 than in 1952; the farm value was down 1.2 cents, and the spread was 3.3 cents wider.

Sales of milk having a lower fat and higher nonfat content than ordinary milk have increased in recent years. This product is commonly called "2-10 milk", because it usually contains 2 percent butterfat and 10 percent nonfat solids. It was introduced in some markets in this country in the early 1950's. The rate at which the product was introduced in new markets increased in the second half of the 1950's, indicating a broadening consumer interest in the product. Low-fat milk was sold in most of the Federal Order milk market areas in 1962. In a few areas sales of low-fat milk accounted for as much as one-sixth of the total fluid milk sales. But these sales were a substantially smaller proportion of the total in a majority of the Federal markets.

Since fat solids in milk are more valuable than nonfat solids, the low-fat milk has a lower farm value than ordinary milk, even though the low-fat milk has a higher nonfat solids content.

Butter.--The retail price of butter averaged 75.2 cents per pound in 1962, down 1.1 cents from the 1961 average. The farm value was 54.4 cents, 1.2 cents less than in 1961, and the farm-retail spread averaged 20.8 cents, up 0.1 cent.

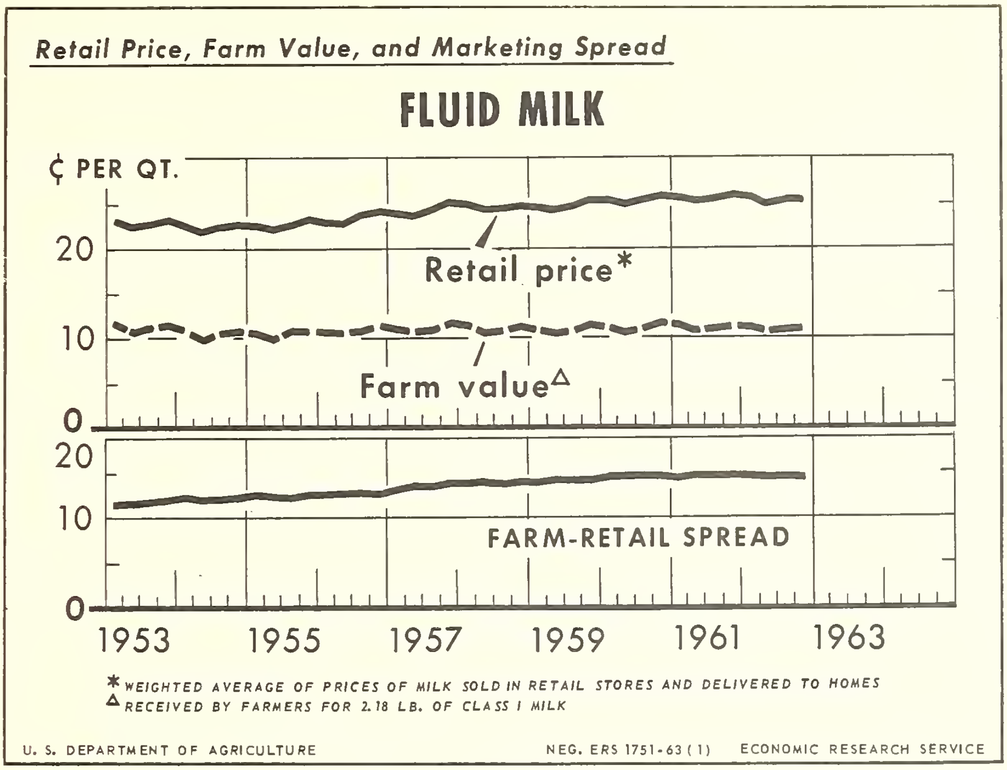

Figure 12

During the 10 years, 1953-62, the quarterly average farm-retail spread for butter varied between 23.9 cents in the first quarter of 1954 and 20.2 cents in the final quarter of 1961. The farm value varied between 57.7 cents in the first quarter of 1953 and 48.3 cents in the second quarter of 1954. In the short run the spread often varied inversely with the farm-value, so the retail price did not change as much as the farm value.

American processed cheese.--Farmers received an average of 28.8 cents for milk equivalent to 1 pound of American processed cheese in 1962, compared with 30.2 cents in 1961. Most of this decrease was offset by an increase in the farm-retail spread to 35.2 cents from 34.2 cents in 1961. The retail price averaged 64.0 cents in 1962, down from 64.4 cents in the previous year. The annual average spread increased 6.4 cents from 1957 to 1962. Much of this rise occurred in the fourth quarter of 1960, when, under the stimulus of increased commercial demand, the retail price rose more than the farm value. The farm value dropped early in 1961 when production had increased more than enough to supply the expanded demand. The retail price soon followed the farm value downward, but the spread remained wider than it was in mid-1960.

The farm-retail spread rose more for cheese than for most other dairy products during the last decade. In 1962 the spread for American processed cheese was 43 percent larger than in 1952. Increases in the spreads for all dairy products averaged 24 percent.

Evaporated milk.--The retail price of evaporated milk averaged 15.6 cents per 14 1/2-ounce can in 1962, down 0.3 cent from the 1961 average. This was the first decrease in the annual average since 1955. The farm value also decreased 0.3 cent to 6.2 cents; so the farm-retail spread was 9.4 cents, the same as in 1961. Last year was the first since 1955 that the spread did not increase. From 1952 to 1962 the retail price increased 5 percent; the farm value decreased 22 percent; and the spread increased 34 percent.

Ice cream.--The retail price of ice cream decreased for the third year in a row in 1962. At 85.8 cents per half gallon, it was 0.7 cent lower than the 1961 average and 2.0 cents lower than the average for 1959. The farm value decreased 1.0 cent to 22.6 in 1962. Since the farm value decreased more than the retail price, the spread between them widened to 63.2 cents from 62.9 cents in 1961.

The farm-retail spread increased about 1 percent from 1952 to 1962; the farm value decreased 16 percent and the retail price 4 percent.

Washington Delicious Apples

Retail prices for Washington Delicious apples averaged 20 cents higher per 42-pound carton in Chicago than in New York City from 1956-57 to 1961-62 (fig. 13). Auction prices for the same period averaged higher in New York City by 26 cents per carton. Consequently, the spread between these prices, which is the combined wholesale-retail margin, averaged 46 cents more per carton in Chicago than in

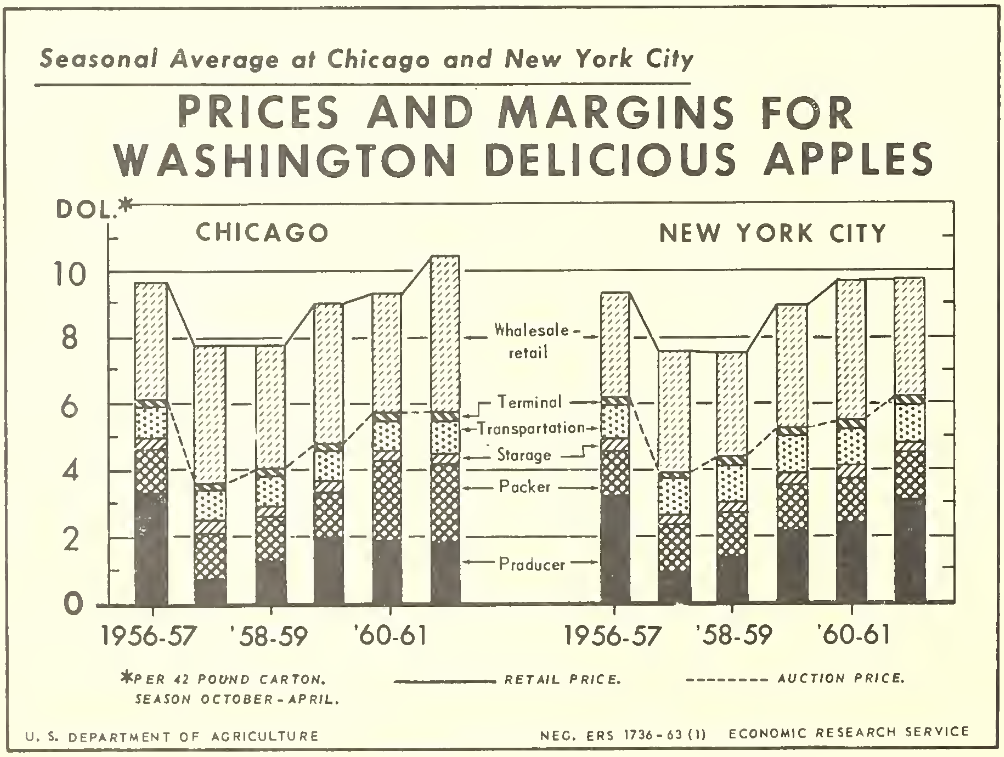

Figure 13

New York City. In both markets the wholesale-retail spread was the largest component of the total marketing charge. It ranged from 37 to 54 percent of the retail price in Chicago during the six seasons from 1956-57 to 1961-62, and from 34 to 48 percent in New York City. Other marketing charges were for auction, transportation, and shipping-point services. These changed little over the 6 seasons. The total marketing charge, or farm-retail spread, for Washington Delicious apples marketed in New York ranged from $6.03 per carton in 1956-57 to $7.30 in 1960-61, and for those marketed in Chicago from $6.31 in 1956-57 to $7.63 in 1961-62. As a percentage of the retail price, marketing charges claimed from 65 to 88 percent of the retail price in New York and from 66 to 90 percent of the retail price in Chicago.

Returns to producers remaining after marketing charges were deducted from retail prices in Chicago ranged from 77 cents per carton or 10 percent of the retail price in 1957-58 to $3.28 per carton or 34 percent of the retail price in 1956-57. From apples marketed in New York, producer returns ranged from 92 cents (12 percent) in 1957-58 to $3.20 (35 percent) in 1956-57.

Prices and producer returns varied widely from season to season. Price variations were closely related (inversely) to the annual production of apples, particularly Washington Delicious. The marketing spread, on the other hand, varied less and apparently quite independently of prices. Producer returns generally increased with retail price increases and decreased with retail price decreases.

Oranges

Retail prices for California Navel and Valencia oranges were higher in Chicago in 1962 than in 1961 (table 3). But retail prices of Florida oranges declined. For each type of orange, the retail price moved opposite to the change in volume of production.

Of the $1.04 increase in the retail price of California Valencias, 89 cents went for marketing and 15 cents to the growers. The 51-cent increase in the Navel price went mostly to growers -- 48 cents. The Florida orange retail price decreased 65 cents. Nevertheless, the marketing spread increased 38 cents, forcing the growers' returns down $1.03. In the 1960-61 season the percentage distribution of the retail price was quite similar for the three orange types. But wide differences occurred in the following season. Most noticeable was the increase in the wholesale-retail margin for Florida oranges from 37 to 44 percent of the retail price and the decrease in the growers' share from 30 to 21 percent. The wholesale-retail spread for Valencias also increased substantially, but the growers' share did not change significantly. For Navels, the growers' share increased from 32 to 37 percent.

Corn Flakes

The manufacturer's margin is by far the largest component of the retail price of corn flakes. This margin is the spread between the manufacturer's selling price and the cost to him of flaking grits bought from the dry corn miller. In 1961, the manufacturer's margin accounted for 69 percent of the retail price (fig. 14). It included processing costs, packaging costs, advertising, and many other costs. The wholesaler's margin, the next largest component, took between 12 and 13 percent of the retail price. The retailer's margin accounted for about 12 percent, and the assembler-corn miller margin for 3 percent. This margin includes the margin taken for assembling corn by elevator operators, dealers, brokers, and others; shipping costs; and the dry corn milling margin. Returns to farmers for

Table 3.--Oranges: Retail prices, marketing margins and growers' returns for sales in Chicago, and seasonal production, 1961-62 1/

Item	California Valencias		California Navels		Florida all varieties	
	1961	1962 2/	1960-61	1961-62 2/	1960-61	1961-62 2/
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
Retail price 3/	6.50	7.54	7.17	7.68	9.33	8.68
Marketing margins:						
Wholesale-retail	2.68	3.54	2.70	2.68	3.44	3.84
Terminal	.18	.21	.19	.24	.28	.26
Transportation	.92	.92	.92	.92	1.00	1.00
Selling and packing	.78	.78	.78	.78	1.33	1.33
Picking and hauling	.25	.25	.25	.25	.46	.46
Total	4.81	5.70	4.84	4.87	6.51	6.89
Growers' return	1.69	1.84	2.33	2.81	2.82	1.79
	1,000 boxes	1,000 boxes	1,000 boxes	1,000 boxes	1,000 boxes	1,000 boxes
Production	16,000	12,800	9,500	7,600	88,000	113,400

1/ California Valencia season - May through November; California Navel season - December through May; and Florida season - November through May.

2/ Preliminary.

3/ California data are for 37.5-pound cartons; Florida data are for 90-pound boxes.

the quantity of corn equivalent to a 12-ounce package amounted to 1.0 cent in 1961, or about 4 percent of the retail price.

Each of the marketing margins except the assembler-corn miller margin was larger in 1961 than in 1947-49. In percentage terms, the increase was largest for the retailer margin, which was nearly four times as large in 1961 as in 1947-49. Returns to the farmer, however, were a third smaller in 1961 than in 1947-49.

Peanut Butter

Consumers paid an average of 41.8 cents for a 12-ounce jar of peanut butter during the 12 months beginning August 1, 1960. 3/ Changes in retail prices of this product were small in recent years (fig. 15). Changes in the farm-retail spread and in the grower's return also were small in cents per jar, but in percentage terms some were substantial. The farm-retail spread totaled 30.0 cents in 1960-61, and the farm value of peanuts required to produce a 12-ounce jar of peanut butter averaged 11.8 cents.

3/ Data in this section are for a peanut crop year, which extends from August through July.

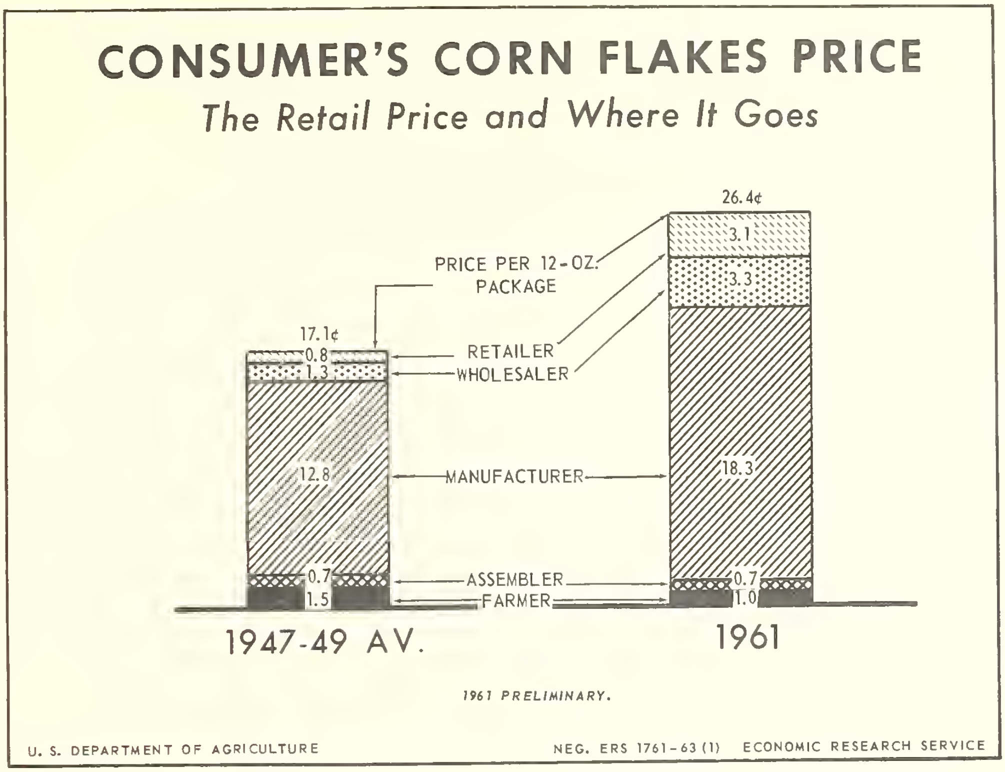

Figure 14

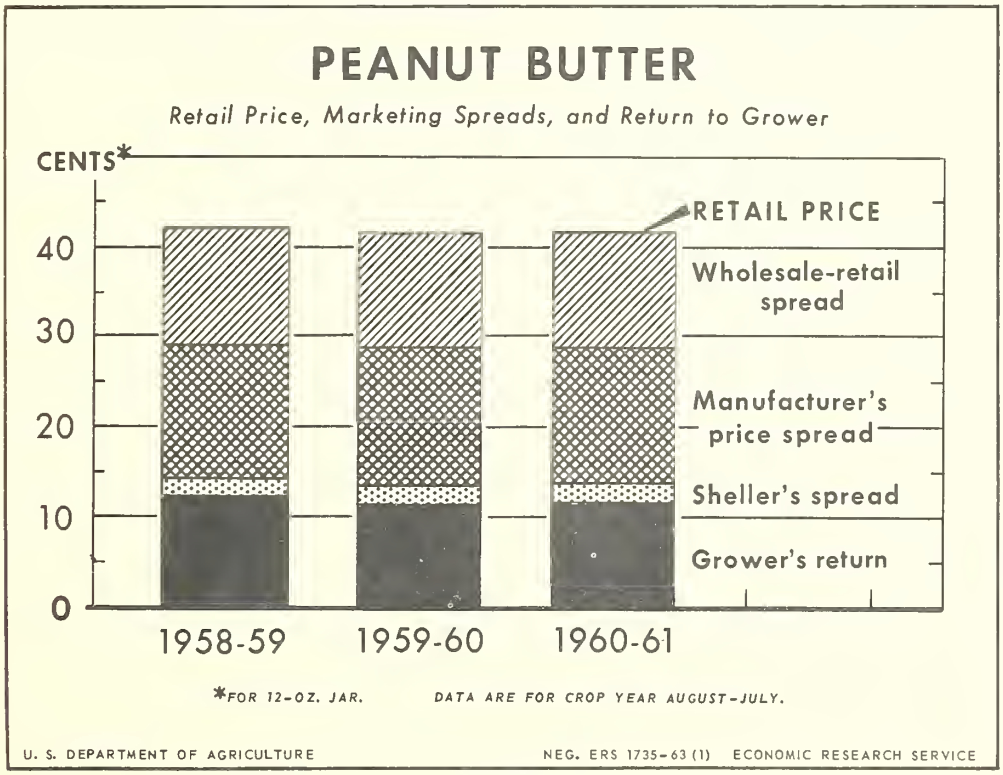

Figure 15

Shellers received an average of 13.9 cents for peanuts equivalent to 12 ounces of peanut butter in 1960-61. The sheller's spread was 2.1 cents -- the difference between the value of shelled peanuts at the plant and the farm value of peanuts.

The manufacturer's spread averaged 15.0 cents per jar in 1960-61 -- the difference between his selling price of 28.9 cents and the sheller's return. This spread included the cost of packaging materials and ingredients other than peanuts, costs of processing and distributing the finished product to wholesale and retail agencies, and profits.

The wholesale-retail spread for peanut butter averaged 12.9 cents per jar in 1960-61. Charges for wholesaling and retailing services were combined because wholesaling services were not always performed by distinct wholesaling agencies. Manufacturers sell much of their production directly to retail grocers.

Variations in Retail Prices.--Noticeable difference in retail prices and price spreads were associated with type of retail outlet, brand name, location of consuming area, and container size. Chain store prices for peanut butter were lower than independent store prices. The most frequent price was 43.0 cents per 12-ounce jar in chain stores and 45.0 cents in independent stores. 4/ Total farm-retail spreads for 1960-61 were 31.2 cents per jar for chains and 33.2 cents for independents.

Advertised, nationally distributed manufacturer's brands of peanut butter were generally higher priced than other brands. In 1960-61 the most frequent price was 45.0 cents per 12-ounce jar for a group of four such major brands compared with 37.0 cents for a group of minor brands. 5/ Prices of major brands commonly were 6.0 cents higher than for minor brands in 1959-60 and 4.0 cents higher in 1958-59.

The farm-retail price spread of major brands averaged 33.2 cents in 1960-61 compared with 25.2 cents for minor brands. Differences in prices between major and minor brands are indicative of the additional costs incurrrd in merchandising the highly advertised brands.

Retail prices in eight cities were compared. This comparison was limited to chain store prices of the same four nationally distributed brands in order to provide a regional comparison indicative of differences in prices resulting from market location. 6/ Portland, the market farthest from the peanut producing areas, had prices as high or higher than those found in other seven cities studies. Baltimore and Philadelphia prices consistently fell below the average price for the eight cities.

The foregoing comparisons were based on prices for peanut butter retailed in 12-ounce containers. Peanut butter, however, is sold in a variety of container sizes. Substantial variation in retail prices is related to differences in container size. The average per unit cost of peanut butter decreases substantially as container sizes increase up to about 25 ounces. In 1960, 12 ounces of peanut butter in 8-ounce jars cost consumers 46.9 cents compared with 35.1 cents in 18-ounce jars. 7/ This meant that the marketing charge for 12 ounces of peanut butter in 8-ounce jars was about

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4/ Prices reported were for the most popular brand sold in each store. Special and sale prices were excluded.

5/ The price shown for minor brands is the simple average of bimodal prices of 35.0 and 39.0 cents per jar.

6/ Chain store sales comprise somewhat more than 40 percent of retail grocery sales.

7/ Comparisons of retail prices by container sizes are based on prices in independent stores, reported to the Statistical Reporting Service, USDA.

1 1/2 times as much as in 18-ounce jars. However, for 30-ounce containers or larger, reductions in marketing charges from increases in container size were relatively insignificant.

Margarine Prices and Advertising

Seven leading margarine manufacturers are among the 100 top advertisers in the United States. Their promotion and merchandising are of such a scope that 11 or more brands of margarine distriubted by these compaines are known throughout the United States.

In 1961, more than 50 percent of total advertising expenditures for margarine were for four "super brands" (table 4). (These four brands were made from corn oil or had butter added.) During the same year, 44 percent was spent on seven other leading nationally-distributed brands, making a total of 95 percent expended for these 11 brands. Thus, advertising expenditures for other brands were small or insignificant.

Table 4.--Margarine sales and advertising expenditures: Distribution of U.S. totals by brand group, 1957 and 1959-61

Brand group	1957		1959		1960 1/	1961 1/
	Sales	Advertising	Sales	Advertising	Advertising	Advertising
	Percent	Percent	Percent	Percent	Percent	Percent
Super 2/	9.0	36.6	9.4	40.6	43.9	51.1
Major brands 3/	37.4	53.9	35.5	48.4	47.6	44.4
Other brands	53.6	9.5	55.1	11.0	8.5	4.5
All brands	100.0	100.0	100.0	100.0	100.0	100.0

1/ Sales data are not available for 1960 and 1961.
2/ Four brands, corn oil and butter added types.
3/ Seven leading nationally-distributed brands.

Sales: "Returns from Marketing Cottonseed and Soybean Oil in Margarine," USDA Mktg. Res. Rpt. 503, Oct. 1961. Advertising expenditures: "Food Field Reporter," Gaylin Co., East Orange, N.J.

Highly advertised super and major brands usually are priced substantially higher at retail than the less advertised brands. Super brands averaged 39.3 cents per pound in 1959 and major brands 29.4 cents compared with an average retail price of 26.5 cents for all brands. Advertising expenditures for the super brands averaged 5.6 cents per pound, or 14 percent of the retail price. The average cost of advertising major brands was 1.8 cents per pound or 6 percent of the average retail price. Super brands in 1959 accounted for about 9 percent of total margarine sales and major brands for 35 percent.

Total expenditures for advertising margarine in magazines and newspapers and on television increased about 35 percent from 1957 to 1959 and 29 percent from 1959 to 1961 (table 5), or from an average of 1.0 cent per pound of margarine in 1957 to 1.3 cents in 1959 and 1.5 cents in 1961. [8] Margarine sales increased 10.9 percent from 1957 to 1959 and 10.6 percent from 1959 to 1961.

Table 5.--Increases in margarine sales and advertising expenditures, 1957-59 and 1959-61

Brand group	1957-59		1959-61	
	Sales	Advertising	Sales	Advertising
	Percent	Percent	Percent	Percent
Super brands 1/	12.7	50.1	2/	62.7
Major brands 3/	2.1	21.5	2/	18.6
Other brands	10.8	57.6	2/	47.0
All brands	10.9	35.4	10.6	29.2

1/ Four corn oil and butter added types.
2/ Not available.
3/ Seven leading nationally distributed brands.

Sales: Brand groups sales, "Returns from Marketing Cottonseed and Soybean Oil in Margarine," USDA Mktg. Res. Rpt. 503, Oct. 1961. Total sales, "Fats and Oils Situation," FOS 212, Econ. Res. Serv., USDA. Advertising expenditures: "Food Field Reporter," Gaylin Co., East Orange, N.J.

Total expenditures for advertising super brands increased about 50 percent from 1957 to 1959, resulting in an increase in advertising expenditures of 1.4 cents per pound of margarine. In 1961, advertising expenditures for this type of margarine totaled about 63 percent more than in 1959.

Cotton

Farm prices of lint cotton used in 25 representative items of cotton clothing and household furnishings averaged about 33 cents a pound in 1962, up 2 cents from 1961 (fig. 16). The price in 1962 was higher than in any year since 1956, but was 5 cents lower than in 1952. The retail cost of clothing and house furnishings equivalent to 1 pound of lint cotton dropped to $2.15 in 1962 from $2.19 in 1961. The spread between the retail cost of these items and the price of a pound of lint cotton averaged $1.82 last year, compared with $1.88 in 1961 and $1.76 in 1952. The farmer's share of the retail cost of these articles averaged about 15 percent last year, 14 percent in 1961, and 18 percent in 1952.

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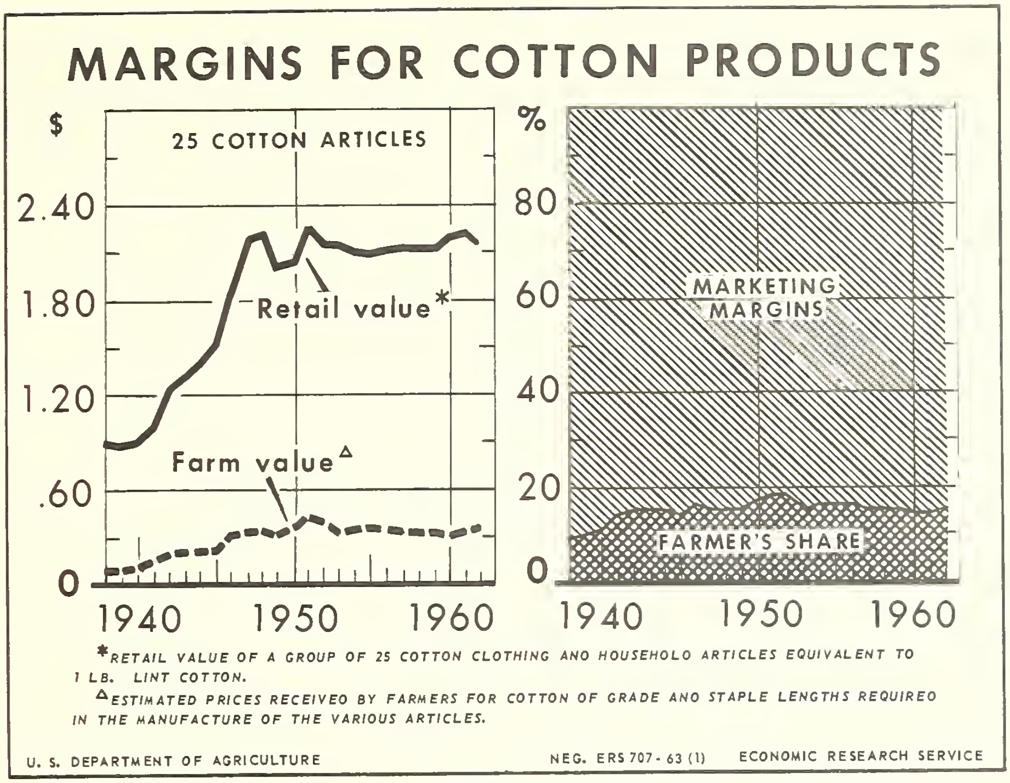
[8] Based on information published annually by the "Food Field Reporter."



*RETAIL VALUE OF A GROUP OF 25 COTTON CLOTHING AND HOUSEHOLD ARTICLES EQUIVALENT TO 1 LB. LINT COTTON.

△ESTIMATED PRICES RECEIVED BY FARMERS FOR COTTON OF GRADE AND STAPLE LENGTHS REQUIRED IN THE MANUFACTURE OF THE VARIOUS ARTICLES.

U. S. DEPARTMENT OF AGRICULTURE NEG. ERS 707-63 (1) ECONOMIC RESEARCH SERVICE

Figure 16

Cotton accounts for a larger proportion of the retail prices of household furnishings than of clothing. Farmers received 23 percent of the dollar consumers spent for household furnishings in 1962, slightly more than in 1961. The farmer's share for clothing averaged 12 percent in 1962, also slightly higher than in 1961. The farmer's share averaged 33 percent for sheets in 1962, 15 percent for work shirts, and 7 percent for business shirts.

Average prices received by mills for unfinished cotton cloth and cost to mills of lint cotton increased, and mill margins decreased in the year ended July 1962. Mill margins for manufacturers of 20 selected constructions averaged 41 percent of the value of the unfinished cloth during the year ended July 1962, compared with 44 percent during the previous 12 months, and about 47 percent for the year ended July 1960, when the margin was wider than for any other recent year.

Gross margins of wholesale and retail distributors of textile products, as a proportion of net sales, averaged higher in 1961 (the latest year for which data are available) than in 1951. But these margins have shown little, if any, trend since the middle 1950's. The median gross margin for wholesalers increased to 17.1 percent of sales in 1961 from 16.1 percent in 1951. Department stores' median gross margin was 36.2 percent of sales in 1961, compared with 35.3 percent in 1951.

Tobacco

The retail price of cigarettes rose slightly during the 12 months beginning July 1, 1961, continuing an upward trend that began in the 1930's. In 1961-62, the retail price of regular size, popular brand cigarettes averaged 27.6 cents per package, double the price in 1938 and 0.3 cent higher than in the preceding 12 months (fig. 17).

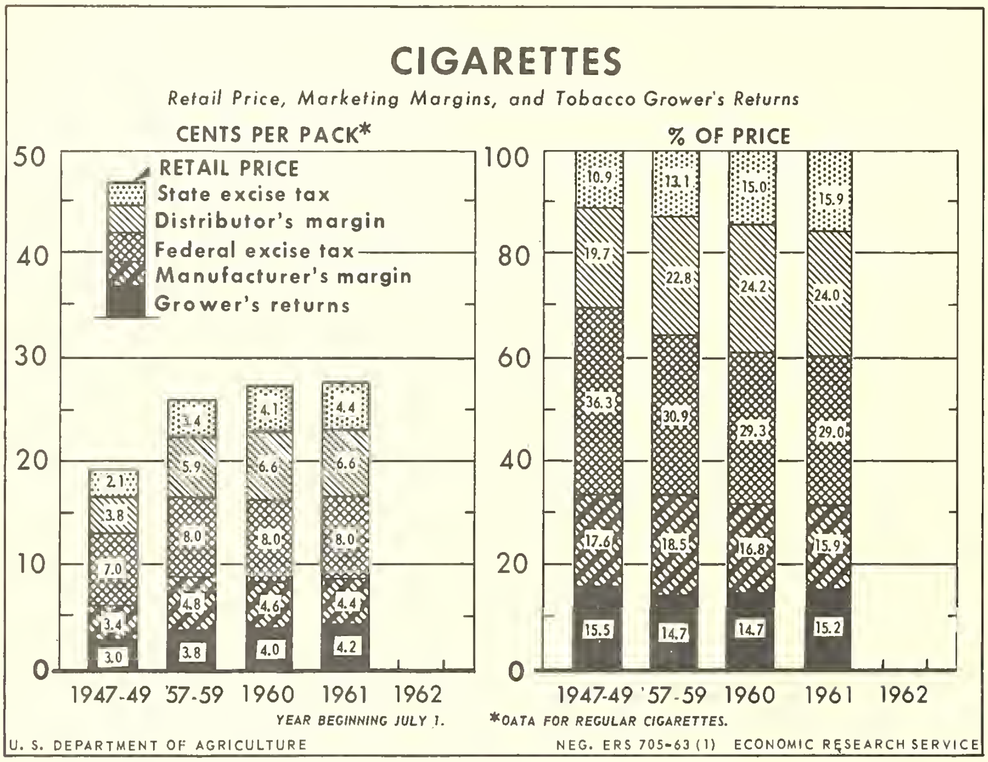


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Figure 17

Two-thirds of the rise in the retail price from 1960-61 to 1961-62 was reflected in an increase in the farm value of leaf tobacco. State excise taxes increased 0.3 cent, but part of this rise was offset by a decrease of 0.2 cent in the manufacturer's margin. Other segments of the farm-retail spread did not change.

Much of the rise in the retail price since 1938 has been absorbed by Federal and State excise taxes. These taxes totaled 12.4 cents in 1961-62, double the total in 1938-39. The distributor's margin was three times as large in 1961-62 as in 1938-39. The combined margin of the manufacturer and leaf-tobacco dealer increased a little more than a fifth during this period. Increased efficiency was a factor accounting for the comparatively small rise in the manufacturer's margin. Output per man-hour increased substantially in plants manufacturing tobacco products.

Tobacco growers received 4.2 cents in 1961-62 for leaf tobacco equivalent to a package of regular size cigarettes. The grower's returns have risen fairly steadily in recent years. Returns in 1961-62 were a fourth higher than in 1951-52. But the grower's returns as a percentage of the retail price declined from 15.8 percent in 1951-52 to 15.2 percent in 1961-62.

Profits of tobacco manufacturing companies have been higher in recent years than in the early 1950's and late 1940's, but profits as a percentage of sales have not been as high as in the late 1930's. After-tax profits of the five leading manufacturing companies averaged 5.9 percent of sales in 1959-61, 4.1 percent in 1950-52, 4.9 percent in 1947-49, and 9.1 percent in 1935-39. As a percentage of stockholders' equity, after-tax profits of these five companies averaged 14.8 percent in 1959-61, 11.0 percent in 1950-52, 14.3 percent in 1947-49, and 13.9 percent in 1935-39. According to reports published jointly by the Federal Trade Commission and the Securities and Exchange Commission, after-tax profits of tobacco manufacturing corporations in the first three quarters of 1962 averaged 5.6 percent of sales, the same as in the comparable period of 1961, and 12.8 percent of stockholders' equity, down from 13.5 percent in the first three quarters of 1961.

PROJECTS TO IMPROVE EFFICIENCY IN MARKETING

Many of the projects conducted by the Division of Marketing Economics are designed to improve efficiency in assembling, shipping, processing, and distributing agricultural commodities. The marketing system has greatly increased its output of marketing services per unit of resources used. Thus, it has kept marketing costs from rising as much as prices of inputs. But continued efforts are needed to maintain and increase the present high level of efficiency. Inefficiency--the failure to realize the maximum output from resources used--often arises from slowness in adjusting to changes in technology, marketing practices, prices of inputs, and other variables. The frequency of change today makes delay in adjustments a major cause of inefficiency. Lack of knowledge often is the chief reason for this delay. A firm will be reluctant, for example, to increase the capacity of its plant until it has dependable information regarding economies of scale that might reasonably be expected from a larger plant. A single firm, particularly a smaller one, is not likely to have the research resources needed to obtain such information. Research of this nature generally involves obtaining information from several firms.

Usually firms are unwilling to supply the needed information to competitors, though they will supply it to a trusted public agency. Thus, the rate of adjustment to change depends heavily on research by public agencies. Since these agencies made results of their research available to all firms, these results may produce widespread improvements. One may confidently expect that consumers and farmers will share in the benefits flowing from improvements in efficiency that can be made by many firms.

The Marketing Economics Division is currently conducting or has recently completed research projects directed toward improving efficiency in the marketing of livestock, poultry, eggs, manufactured dairy products, grains, cottonseed, peanuts, bread, cotton, wool, and tobacco. It also has projects that are concerned with efficiency in the wholesaling of frozen food and with efficient inventory control and space management in warehouses handling foods and other farm products. Some findings from a few of the efficiency studies are given below.

Marketing Costs in Multiple-Product Vegetable Freezing Plants

The Marketing Economics Division and the California Agricultural Experiment Station recently completed a cooperative study of operations and costs in California vegetable freezing plants. The study shows that substantial economies can be achieved by processing these products in multi-product plants and thereby reducing underutilization of equipment, management, and other fixed cost components. These economies can best be realized by processing products that mature in different seasons. In this way a plant's operating season is lengthened and costs of management and other factors having fixed costs are spread over a larger annual output. Where a multi-product plant cannot process products that mature in different seasons, simultaneous processing two or more products often provides a means of utilizing its capacity more fully than a single-product plant could. Thus, its costs per unit would be lower than those of the single-product plant.

The following examples indicate the general nature of some of the results obtained. A specialized plant for freezing broccoli with a capacity of 6,000 pounds per hour requires an investment of about $240,000 in plant and equipment. About the same investment is required for a specialized frozen spinach plant of the same capacity. For an additional investment of $22,000 one can build a plant of the same capacity (6,000 pounds per hour) in which both broccoli and spinach can be processed.

Annual fixed costs (plant and equipment overhead and salaries of managers, superintendents, and office personnel.) total about $86,000 for a single-product broccoli or spinach plant of 6,000 pounds per hour capacity, and only $4,000 more for a multi-product plant of the same capacity adaptable to both products. But the annual output of the multi-product plant might be much greater.

Savings in costs per unit of output were estimated by comparing total unit costs of different types of multi-product plants with those of single-product plants. Unit costs of multi-product plants ranged from about 0.5 cent to 4.0 cents below those of comparable single-product plants, depending on the type and number of vegetables processed, hourly output rates, total hours operated and other factors.

Bread Distribution Costs and Efficiencies

Consumers paid 21.2 cents for a 1-pound loaf of white bread in 1962, 57 percent more than the 1947-49 price. In this same period all food prices rose 22 percent. A major part of the marketing spread is the baker-wholesaler margin, which increased from 6.0 to 11.5 cents. Rising distribution costs were a major factor in the rise of the price of bread. According to baking industry estimates, distribution costs ranged from about 36 percent of sales with the traditional driver-salesman method of delivery to about 12 percent of sales with the drop delivery method.

A study is underway to find the most economical method of bread distribution, including frozen bakery products, and to recommend feasible ways for its adoption, considering the organization of the industry and labor arragements. Increased efficiency in distribution and freezing appear to be two of the most promising techniques for increasing efficiency in the baking industry.

Freezing bread stops yeast action in doughs and retards staling rates in baked products. Thus, it permits greater flexibility in the production and distribution of bakery products and under certain conditions results in lower operating costs. Our preliminary estimate is that savings of about 2 cents a pound might be realized compared with the methods now used by most wholesale bakers.

A survey of 1,300 bakers in 28 cities having a population of more than 100,000 showed that nearly 40 percent of these bakers currently froze some of their production. More than half, however, were freezing only 1 to 10 percent of production, and only a few bakers froze as much as 75 percent or more. Some bakery products were distributed in frozen form, but a more common practice was to use freezing only in the production operations and to defrost the products before distribution or sale. Sixty-four percent of the bakers interviewed said freezing resulted in a net decrease in production costs. This indicated decrease in costs was offset in part by the added cost of purchasing and operating a freezer. However, there were also significant savings through reduction in stale losses.

Reducing Costs of Hauling Broilers to Processing Plants

A survey conducted in New England by the Marketing Economics Division showed that costs per pound of assembling live broilers from farms could be reduced by increasing the number of birds assembled per plant and the number procured per mile of truck travel.

As the total volume assembled per plant increases, trucks of larger capacity are used. Also the size of loading crews is increased, permitting more division of labor. Thus, output per man-hour is increased and labor costs are reduced.

Preliminary cost estimates illustrate the magnitude of savings possible by increasing the size of the assembly operation and the volume of broilers that can be procured per mile of truck travel. Where poultry may be procured at the rate of 100 pounds per truck-mile, costs per pound of assembling decline from 0.90 cent for a plant assembling 1 million pounds per year to 0.47 cent for a plant with a volume of 50 million pounds. For a typical plant that assembles 1 million pounds of live broilers annually, costs of assembly per pound vary from 0.90 cent when an average of 100 pounds of broilers can be picked up per truck-mile down to 0.64 cent when the volume per truck-mile is 500 pounds. A plant that assembles 50 million pounds annually could reduce assembly costs per pound from 0.47 cent to 0.36 cent by increasing volume per truck-mile from 100 pounds to 500 pounds.

Cost of Mixing Feeds

Farmers as producers of most of the ingredients going into mixed feeds and as buyers of feed have a double stake in the efficiency of the mixed feed industry.

The Marketing Economics Division is conducting a series of research studies to develop operating cost standards that will be useful to feed manufacturers in decreasing production costs. A recent report presented results of a study of costs incurred in mixing feed. Standard costs per ton of feed were developed for production, maintenance, and supervisory labor; equipment depreciation; interest on investment in equipment; electricity; and fuel. These standard costs totaled 80 cents per ton in a model plant having a mixing capacity of 80 tons per 8-hour shift and 63 cents per ton in a 200-ton model plant. Each of the above cost items was lower for the plant having the larger mixing capacity. By operating two shifts a day, mixing costs would be reduced to 70 cents per ton for the smaller facility and 55 cents a ton for the larger one. Mixing costs for an annual output of 52,000 tons were 12 percent lower per ton in the larger model plant than in the smaller one. Plants having a mixing capacity of 80 and 200 tons per 8-hour shift are common in the mixed food industry.

This and other reports published by the Marketing Economics Division are used by the Feed Production School, Inc., conducted by an industry association, as a part of its program to reduce production costs. The cost standards developed in this study are believed to be below the costs of most plants in the industry. Because of the intense competition within the mixed feed industry, savings achieved by reducing costs to these standards likely would be passed on at least in part to farmers and ultimately to consumers of animal products.

MARGINS AND COSTS PUBLICATIONS ISSUED, FEBRUARY 1962 - FEBRUARY 1963

Publications and Periodicals of the Economic Research Service, USDA

Price Spreads and Prices for Eggs, Frying Chickens, and Turkeys in Selected Cities, 1956-1961. ERS-60. April 1962.

Reducing Costs of Handling and Hauling Live Chickens from Farms to Processing Plants. ERS-81. August 1962.

A Technical-Economic Evaluation of Four Hide-Curing Methods. Agr. Econ. Rpt. No. 16. Sept. 1962.

Convenience Foods in the Grocery Basket. Mktg. Bull. No. 22. Sept. 1962.

Developments in Marketing Spreads for Agricultural Products in 1961. ERS-14 (1962). Oct. 1962.

Labor and Capital for Mixing Formula Feeds. Mktg. Res. Rpt. No. 564. Oct. 1962.

Price and Price Spread Statistics for Eggs, Frying Chickens, and Turkeys in Ten Cities, Monthly, 1956-61. Oct. 1962.

Milk Distributors' Operations--Analyses of Growth, Sales Distribution, Costs and Profits. ERS-84. Nov. 1962.

Marketing Margins for White Bread. Misc. Pub. 712. Revised Nov. 1962.

The Impact of Technological Change on Marketing Costs and Grower's Returns. Mktg. Res. Rpt. No. 573. Dec. 1962.

Retail Price Specials for Frying Chickens in Selected U. S. Cities, 1960-61. ERS-101. Jan. 1963.

Milk Distributors Sales and Costs. Quarterly.

The Marketing and Transportation Situation. Quarterly.

The Farm Index. Monthly.

State Publications

Marketing Costs and Labor Productivity in Commercial Egg Packing Plants. Ga. Agr. Expt. Sta. Bull. N.S. 93. June 1962.

Costs and Efficiency in Alfalfa Dehydrating Plants. Kansas Agr. Expt. Sta. Tech. Bull. 124. Aug. 1962.

Articles in USDA Periodicals

Agricultural Economics Research:

Input-Output Analysis as a Tool in Agricultural Marketing Research. July 1962.

Agricultural Marketing:

Price Wars in City Milk Markets. May 1962.
Hedging Trims Wool Products Costs. Aug. 1962.

Agricultural Situation:

Farmer's Share of Farm Food Dollar Down Last Year. Feb. 1962.
What It Costs to Market Farm Foods. Oct. 1962.
Little Change Expected in Food Marketing Charges. Dec. 1962.

The Marketing and Transportation Situation:

Food Retailing By Discount Houses. Feb. 1962. Reprinted as ERS-56.
Prices of Intermediate Goods and Services Used in Marketing Farm Foods. May 1962. Reprinted as ERS-73.
Revised Farm -Retail Spreads for Beef, Pork, and Lamb. May 1962. Reprinted as ERS-76.
The Farm Food Marketing Bill. Aug. 1962. Reprinted as ERS-20 (1962).
Advertising Expenditures by Food Marketing Corporation, 1950,1951, and 1953-61. Aug. 1962. Reprinted as ERS-89.

Speeches and Papers

Price Wars and Progress. Talk delivered before the District Accounting Conferences conducted by the Milk Industry Foundation and the International Association of Ice Cream Manufacturers, May and June 1962.

Labor Costs of Killing Hogs from Packers' Accounting Records. Address at Meeting of Southern Division, NIMPA Accounting Conference National Independent Meat Packers Association, Oct. 20, 1962.

Costs of Processing and Assembling Turkeys. Talk prepared for Fact Finding Conference, Institute of American Poultry Industries, Feb. 15, 1963.

OTHER DISSEMINATION OF PRICE SPREAD INFORMATION, FEBRUARY 1962 - FEBRUARY 1963

Radio Presentations

Statement - Processed Potatoes
Interview - Freeze Dried Foods
Interview - Redi Wheat

Television

Television Packet - Processed Potatoes
Interview-Money Saving Conveience Foods. (WRC-TV and 5 other channels.)
Interview-Freeze Dried Foods. (WRC-TV and 5 other channels.)

Booklets

The Food We Eat, U. S. Dept. Agr., Misc. Pub. No. 870, Revised Sept. 1962.

Food and Home notes

Convenience Foods. Sent to 300 newspaper women for use in magazines and radio and television programs.

Exhibits

Poultry meeting in Kansas City, Mo.